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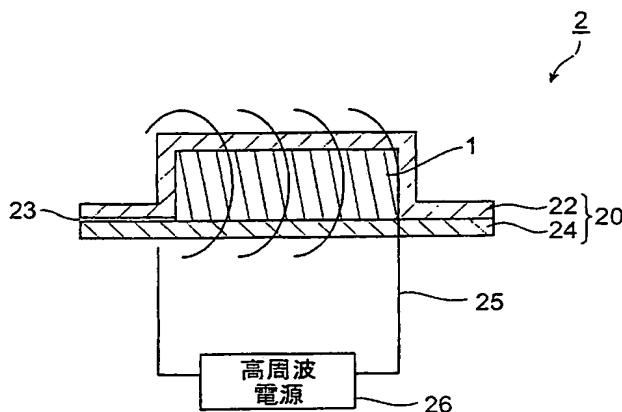
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(81) 指定国 (表示のない限り、全ての種類の国内保護が可能): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[続葉有]

(54) Title: ALKALI METAL GENERATING AGENT, ALKALI METAL GENERATOR, PHOTOELECTRIC SURFACE, SECONDARY ELECTRON EMISSION SURFACE, ELECTRON TUBE, METHOD FOR MANUFACTURING PHOTOELECTRIC SURFACE, METHOD FOR MANUFACTURING SECONDARY ELECTRON EMISSION SURFACE, AND METHOD FOR MANUFACTURING ELECTRON TUBE

(54) 発明の名称: アルカリ金属発生剤、アルカリ金属発生器、光電面、二次電子放出面、電子管、光電面の製造方法、二次電子放出面の製造方法及び電子管の製造方法



26...HIGH FREQUENCY ELECTRIC SOURCE

(57) Abstract: An alkali metal generating agent (1) for use in forming a photoelectric surface emitting a photoelectron corresponding to an incident light or a secondary electron emission surface emitting a secondary electron corresponding to an incident electron, which comprises an oxidizing agent comprising at least one tungstate having an alkali metal ion as a counter cation and a reducing agent for reducing the above cation. The above metal generating agent (1), which includes a tungstate having weaker oxidizing power than that of a chromate, undergoes slower oxidation-reduction reaction, which results in easier reaction rate control as compared to a conventional technique using a chromate, leading to the generation of an alkali metal with good stability.

[続葉有]

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(84) 指定国 (表示のない限り、全ての種類の広域保護が可能): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

添付公開書類:

— 国際調査報告書

2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

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(57) 要約:

この発明は、アルカリ金属を安定的に発生させることのできる光電面又は二次電子放出面を形成するためのアルカリ金属発生剤等に関する。当該アルカリ金属発生剤(1)は、入射光に対応して光電子を放出する光電面、又は入射電子に対応して二次電子を放出する二次電子放出面の形成に使用される。特に、当該アルカリ金属発生剤(1)は、アルカリ金属イオンをカウンターカチオンとする少なくとも一種のタングステン酸塩からなる酸化剤と、前記イオンを還元するための還元剤とを少なくとも含む。タングステン酸塩はクロム酸塩よりも酸化力が弱いので、還元剤との酸化還元反応がクロム酸塩の場合に比べて緩やかに進行し、反応速度の制御が容易である。

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/000294

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> H01J9/12

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> H01J9/12, 9/233, 1/32-1/35, 1/78, 29/38, 40/06, 43/10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1926-1996	Toroku Jitsuyo Shinan Koho	1994-2004
Kokai Jitsuyo Shinan Koho	1971-2004	Jitsuyo Shinan Toroku Koho	1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
JSTPlus (JOIS)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 48-20944 B1 (Tokyo Shibaura Electric Co., Ltd.), 25 June, 1973 (25.06.73), Full text; all drawings (Family: none)	1-8, 10, 11, 16-19, 22, 29, 30, 33-35 9, 12-15, 31, 32, 36-38
Y		
X	JP 47-15976 B1 (Tokyo Shibaura Electric Co., Ltd.), 12 May, 1972 (12.05.72), Full text; all drawings (Family: none)	1, 2, 4, 6-8, 10, 11, 16, 18, 19, 22, 29, 30, 33-35 9, 12-15, 31, 32, 36-38
Y		
X	JP 55-78438 A (Hamamatsu TV Co., Ltd.), 13 June, 1980 (13.06.80), Full text; all drawings (Family: none)	18-28 9, 14, 31, 32, 36-38
Y		

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search  
05 April, 2004 (05.04.04)Date of mailing of the international search report  
20 April, 2004 (20.04.04)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/000294

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2-106846 A (N.V. Philips' Gloeilampen-fabrieken), 18 April, 1990 (18.04.90), Page 3, upper left column to upper right column; Fig. 1 & EP 360316 A1                      & US 5006756 A & NL 8802172 A                      & CN 1041063 A	12, 13
Y	JP 44-2428 Y1 (Tokyo Shibaura Electric Co., Ltd.), 29 January, 1969 (29.01.69), Full text; all drawings (Family: none)	15